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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. |
|-----------------|-------------|----------------------|---------------------|
| | 11/18/97 | ARMSTRONG | D 1B |

IN41/0914

| EXAMINER |
|------------|
| PARSONS, T |

| ART UNIT | PAPER NUMBER |
|----------|--------------|
| 1741 | 2 |

DATE MAILED: 09/14/98

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
08/782,816

Applicant(s)
Armstrong et al.

Examiner
Parsons

Group Art Unit
1741



- ☐ Responsive to communication(s) filed on _____.
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

- ☒ Claim(s) 1-20 is/are pending in the application.
- Of the above, claim(s) _____ is/are withdrawn from consideration.
- ☐ Claim(s) _____ is/are allowed.
- ☒ Claim(s) 1-20 is/are rejected.
- ☐ Claim(s) _____ is/are objected to.
- ☐ Claims _____ are subject to restriction or election requirement.

Application Papers

- ☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- ☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
- ☐ received.
- ☐ received in Application No. (Series Code/Serial Number) _____.
- ☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

- ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- ☒ Notice of References Cited, PTO-892
- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____
- ☐ Interview Summary, PTO-413
- ☒ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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DETAILED ACTION

Drawings

1. The drawings are objected to because item "23" shown on Fig. 23 is labeled an injection nozzle whereas the specification discloses that item 23 shown on Fig. 2 (pg. 11, line 12) and on Fig. 3 is choke flow nozzle. Correction is required. *w/drawal*

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: "11", "19", and "21" shown on Fig. 1; "5" shown on Fig. 3; and, "30" shown on Fig. 4. Correction is required. *w/drawal*

Specification

3. The abstract of the disclosure is objected to because of the phrase "lower than the lesser of the boiling point of the alkali or alkaline earth metal at atmospheric pressure". There is no support for this phrase in the specification and should be removed. Correction is required. See MPEP § 608.01(b). *w/drawal*

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4. The disclosure is objected to because of the following informalities: pg. 1, lines 2, "(now U.S. Patent No. 5,779,761)" should be inserted after "1995", line 4, "(now abandoned)" should be inserted after "1994", line 10, a comma should be inserted after "titanium", line 18, a comma should be inserted after "present"; pg. 10, line. 20, delete the period after "Figure 1"; pg. 11, line 4, "removal of same" should be changed to "removal of the same", line 8, delete the period after "Figure 1", line 10, "avoids the problems..." is awkwardly worded, line 18, insert a comma after "That is"; pg. 12, lines 24, "the line being 1.1 kg/min" is awkwardly worded; pg. 14, lines 2, delete the period after "Figure 4", lines 6, "The recycle stream was" should be changed to "The recycle stream has", line 9, insert "30" after "tank", line 10, delete "30"; pg. 15, lines 14, "consisting of a two" should be changed to "consisting of two".

Appropriate correction is required.

WJ/Eravel

5. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: The following recitations are not supported by the Applicants' disclosure and the disclosure should be amended so as to provide the proper antecedent basis for the claimed subject matter

- ? a. Claim 2, line 2, recites "...and the alkaline earth metal isBa....".
- ✓ b. Claim 10, lines 2-4 recites "...the temperature of the liquid Na away from where the vapor is introduced is maintained in the ranged of from about 200°C to about 400°C."

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? c. Claim 18, pg. 20, lines 6-8, recites "...using the recovered heat to vaporize liquid halide from the source thereof to produce halide vapor to react with ore of the metal or non-metal".

6. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: METHOD OF MAKING METALS AND OTHER
ELEMENTS FROM THE HALIDE VAPOR OF THE METAL *w/drawn*

Claim Objections

7. Claims 2, 6, 10, and 18 objected to because of the following informalities: Claim 2, line 1, "the alkali metal" should be changed to "liquid alkali metal", line 2, "alkaline earth metal" should be changed to "liquid alkaline earth metal"; Claim 6, line 2, "alkali metal" should be changed to "liquid alkali metal"; Claim 10, line 1, "the halide is " should be changed to "the halide vapor is"; Claim 18, line 4, "liquid alkali or" should be changed to "liquid alkali metal or". Appropriate correction is required. *w/drawn*

Double Patenting

8. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible

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harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

9. Claims 1-20 rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-41 of U.S. Patent No. 5,779,761 (Armstrong et al.). Although the conflicting claims are not identical, they are not patentably distinct from each other because the scope of claim 1 of the instant application is narrower than claim 1 of the Patent. However, claims 2 and 3 of the Patent encompass all of the products claimed in claim 1 of the instant application. Therefore, the specific products produced would be determined by one skilled in the art.

The Patent claims in claim 25 a continuous process whereas claim 4 of the instant application claims a batch process. It would have been obvious to one skilled in the art that if the process works in a continuous mode it would have worked in a batch mode. (See *In re Dilnot*, 319 F.2d 188, 138 USPQ 248 (CCPA 1963); *In re Korpi*, 73 USPQ 229 (CCPA 1947).

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The Patent discloses in claims ~~30~~³¹ and 35 recovering heat from the excess alkali or alkaline earth metal and using the recovered heat for power generation whereas the instant application in claim 31 furthers claims using the recovered heat in the process to react with liquid halide. It

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would have been obvious to one skilled in the art to use the recovered heat in the process to improve process efficiency and lower production costs.

The Patent discloses that the gas is intimately mixed with the liquid sodium whereas the instant application discloses intimately mixing of the halide vapor with alkali metal or alkaline earth metal in a zone enclosed by the liquid. One skilled in the art would presume that intimate mixing of a gas with a solid or a liquid would occur in an enclosed zone of the liquid.

The Patent discloses that there is an excess of the metal over the stoichiometric quantity needed to react with the vapor such that the temperature of the powder produced is controlled. The instant application discloses that the temperature of the elemental material is at least partly controlled by the quantity of the liquid metal contacting the elemental material during formation. It is well within the skill of the art to control temperature by controlling process operating parameters such as mixing time and speed, flow rates, and dilution.

Any inquiries regarding this communication or earlier communications from the examiner should be directed to Thomas Parsons whose telephone number is (703) 306-9072. The examiner can normally be reached on Monday - Friday from 8:30 a.m. to 5:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kathryn Gorgos, can be reached on (703) 308-3328. The fax phone number for this Group is (703) 305-7718 and for After Final Faxes, it is (703) 305-3599..

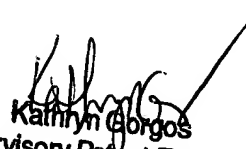
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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0061.

Thomas H Parsons
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Kathryn Gorgos
Supervisory Patent Examiner
Technology Center 1700